



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,320	01/27/2004	Manfred Fuchs	24,577-26US	9408

7590

10/24/2005

John F. Klos, Esq.  
Fulbright & Jaworski L.L.P.  
80 South Eighth Street, Suite 2100  
Minneapolis, MN 55402-2112

EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/765,320	<b>Applicant(s)</b> FUCHS ET AL.	
	<b>Examiner</b> John F. Ramirez	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/27/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/04/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 12 is objected to because of the following informalities: "The method of claims" as said in claim 12 is interpreted as "The method of claim 1" and is examined as such. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7-11, 13-15, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohyu et al. (US 6,187,032).

Art Unit: 3737

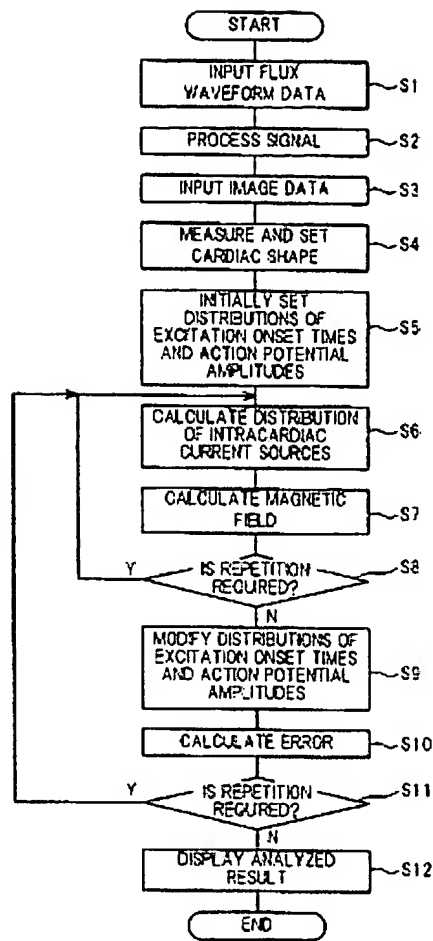


FIG. 7

In regards to claims 1, 2, 7-11, and 12, Ohyu et al. discloses a method for acquiring a first electromagnetic physiological signal, filtering the signal for a latency range (col. 11, lines 1-8), performing a source reconstruction for the signal (Fig. 7, steps S5, S6, S7), acquiring a second electromagnetic physiological signal while the source reconstruction is being performed on the first electromagnetic signal, performing the source reconstruction includes computing a single equivalent current dipole (col. 3, lines 56-63), using a concentric sphere volume conductor model (Fig. 7, step S7), using a Boundary Element Method (BEM) volume conductor (Fig. 7, step S7), using a Finite

Art Unit: 3737

Element Method (FEM) model (col. 13, lines 16-30), averaging the filtered data (col. 11, lines 1-8), applying a dipole onto an anatomical image, creating a scatter plot of dipole locations (Figs. 2,3, and 17).

With respect to claims 14, 15, 18, and 19, Ohyu et al. discloses an apparatus comprising a sensor for acquiring an electromagnetic physiological signal (Fig.4, col.10, lines 31-40), a signal processing circuit in communication with the sensor (Fig.4, col.10, lines 31-66 – col.11, lines 1-8), a processor in communication with the signal processing circuit and configured to support multiple threads of execution with one thread being a measurement module and a second thread being a source reconstruction module (col. 12, lines 4-20), a display showing source reconstruction results overlayed onto anatomical data (col. 4, lines 10-36), wherein the sensor acquires ECG and MCG data (col. 22, lines 38-54).

With respect to claim 20, Ohyu et al. shows in Figure 7 a method of testing comprising the steps of: acquiring an electromagnetic physiological signal through a test setup, determining the latency of the signal, performing a source reconstruction of the data within a predetermined latency range, and using the source reconstruction to modify the test setup.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

Art Unit: 3737

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6, 13, 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohyu et al. (US 6,187,032) in view of Kiyuna (US 6,073,040).

Ohyu et al. teaches all the limitations of the claimed subject matter except for mentioning specifically the step of performing the source reconstruction that includes computing a moving dipole, a rotating dipole, a regional dipole, a fixed dipole, comprising a signal to noise analysis of the required neurophysiological data, and wherein the sensor acquires MEG and EEG data.

However, the steps of (1) of performing the source reconstruction that includes computing a moving dipole, a rotating dipole, a regional dipole, a fixed dipole, (2) comprising a signal to noise analysis of the required neurophysiological data, and (3) wherein the sensor acquires MEG and EEG data are considered conventional in the art as evidenced by the teachings of Kiyuna (US 6,073,040).

The Kiyuna patent teaches the steps of performing the source reconstruction that includes computing a moving dipole, a rotating dipole, a regional dipole, a fixed dipole, comprising a signal to noise analysis of the required neurophysiological data, and wherein the sensor acquires MEG and EEG data.

Based on the above observations, for a person of ordinary skill in the art, modifying the method disclosed by Ohyu et al., with the above discussed enhancements would have been considered obvious because such modifications would have provided an electrophysiological activity estimation method to

Art Unit: 3737

estimate the number of dipoles with accuracy of active areas of a selected part of a living body.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John F Ramirez  
Examiner  
Art Unit 3737

Art Unit: 3737

JFR

10/19/05



**ALI IMAM**  
**PRIMARY EXAMINER**